

REMARKS

This is a response to the Office Action, marked as mailed September 21, 2001, for the above-captioned application. The following remarks are organized by the paragraph numbers used in the Examiner's Detailed Action, beginning on page 2 therein:

Drawings

1. The Applicants will file formal drawings when the application is allowed.

Double Patenting

2. The Examiner objects claims 16 through 19 as being "substantial duplications." The Applicants, as herein directed, amends claim 16 to depend from claim 13. The Applicants also cancel claims 17, 18 and 19.

Claim Rejections - 35 USC §103

3. In this paragraph, the Examiner introduces 35 U.S.C. §103(a). No response is required.
4. The Examiner rejects claims 1 and 2 under 35 U.S.C. §103 (a), as being unpatentable over U.S. Patents Nos. 4,212,895 or 4,218,491, both to Laws et al., for "reasons set forth in the last office action." However, in the last office action in which these two references were substantively discussed, the Examiner focuses on the combination of the two as rendering the claims of the Applicants obvious.

The Applicants wish to again clarify that Laws et al. '895 is a process patent that compares organic extraction products to CO₂ extraction products. The table on the "top of col. 2" in Laws et al. '895 lists results of a "typical organic solvent extraction." Laws et al. '895 then discusses this table noting that these results are *not* obtainable for CO₂. The Applicants agree.

The suggested combination of the Laws et al. '895 solvent polluted streams with solvent free CO₂ extract would result in an unacceptable product. Combining the organic solvent (such as methylene chloride) extract of the Laws et al., with the CO₂ extraction product of the Laws et al. '491 process, is not only absent in the teachings of any hop extraction patent and it is abhorred by the industry. Organic solvent free hop extract streams are produced with considerable expense. Combining organic solvent containing streams with pure extracts from carbon dioxide extractions would result in an inferior and unmarketable product, certainly not exhibiting the qualities of the claimed invention. The Applicants again wish to stress this point to the Examiner. The fractionated, high alpha material that is added to the whole hop extract in the Applicants' invention does not include the undesirable and off-flavor components that are included in an organic solvent extraction product. The two Laws references are not properly combinable, nor do they render the Applicants' claims unpatentable when considered individually.

5. The Examiner notes that the Applicants are claiming beta acids concentrations of less than 20%. The Examiner first cites case law that states purity of a product itself does not render a product unobvious. The Applicants are not merely claiming a purified product, but a mixture of two heretofore uncombined product streams.

The Examiner then cites additional case law to assert that a rejection is proper when the

difference between the claimed invention and the prior art is a minor difference in the range of a particular variable or when the ranges touch. This assertion fails in the present situation. The range disclosed in the prior art is a *barrier* in CO₂ extraction of 20% beta acids, not just an arbitrary value selected by prior workers in the art. Component values observed in the extraction process are relatable and consistent with the raw materials extracted. Beta acids cannot be eliminated in a conventional, industrial scale process utilizing CO₂ extraction, without depleting other desired components.

6. The Examiner notes that the Laws et al. '895 patent teaches the removal of beta acids when the alpha acids are isomerized. The Applicants note that nowhere in the Applicant's claims are the alpha acids isomerized. Nowhere in the Applicants' specification is the word "isomerized" used.

7. The Examiner also notes that the Laws et al. '491 patent teaches much the same as the Laws et al. '895 patent. The Applicants strongly assert that this observation by the Examiner is at the root of the controversy regarding the fundamental patentability of the Applicants' claims. These two patents by Laws et al. are not "much the same." Laws et al. '491 deals with the production of isomerized alpha acids, while Laws et al. '895 *later* teaches an improved CO₂ extraction of hops. This is a glaringly clear distinction between these two patents and their teachings, to any person skilled in the art of hop extraction and processing, and should be much clearer to the Examiner than they apparently are.

8. In referring again to Table 3 of the Laws et al. ' 895 patent, the Applicants confirm the Examiner's observation in that the table appears to show extraction efficiencies exhibited by various hop varieties. However, the Applicants wish to add that from this table, it is also quite apparent that the extraction yields must include a significant proportion of beta acids. These proportions cannot be reduced by simple adjustments made by the operator, without compromising desirable component yields.

9. The Examiner again requests for the Applicants' attention to *In re Levin*, 84 USPQ 232 (1949). The Applicants' product is not a recipe or formula that with simple variation in a component. The Applicants have developed a new and materially different intermixture exhibiting properties that the separate ingredients do not individually possess.

The proportions claimed are critical in realizing these properties. The compounding procedure is unusual in that it recombines product streams that are not recombined in that the industry practice teaches away from such recombination. Mass produced beverages are certainly required to be consistent in quality and taste. Homogeneity and precision in the hop extract industry is vital in the production of consistent product. The Examiner is again, respectfully requested to reconsider the utility of the Applicants' invention, made in the highly competitive and intensely researched field of hop derived products.

Although it is known to purify hop extract, it is not known to recombine purified extract into the whole hop extract. One skilled in the art would certainly avoid the Applicants' process, labeling it counterproductive. At best, a blended product so produced, would be expected to perform no

better than the whole extract prior to enrichment. The unforeseen advantages of this whole extract enrichment include the stabilization of the product and the consistent homogeneity in the product that is afforded by the re-introduction of specific purified steams back into the whole hop extract. As noted by the Applicants in their originally filed specification (beginning on page 9, line 28 therein), the blended formulation also unexpectedly exhibits a better consistency for pouring and flow, when compared to either the whole extract or purified components. This is a new, unexpected and very useful function.

VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

16. (Twice Amended) [An enriched alpha-acid hop extract product having:]The enriched alpha-acid hop extract product of claim 13, wherein:

the whole hop extract is a first whole hop extract[component produced through a carbon dioxide solvent extraction, the whole hop extract component including alpha-acids, beta acids and hop essential oils, hard resins and waxes];

the second whole hop extract component is [a purified alpha acids component formed from a refined portion of]an organic solvent free, second whole hop extract component; and

the purified alpha acids component stabilized in storage by the first whole hop extract component[; and

the enriched alpha acid-hop extract having a total alpha-acids concentration greater than 60% by weight, a total beta-acids concentration less than 20% by weight, and a total hop essential oils concentration in excess of 1% by weight].

CONCLUSION

The Examiner's mixture of Laws et al. '895 and '491 could not produce the Applicants' product as claimed. The Applicants' product is novel and possesses unforeseen advantages. The Applicants request reconsideration of the claims as amended and added. The Applicants have fully addressed all of the Examiner's concerns, and believe that claim 1,2, 12, through 16, are all in condition for allowance.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the application, he is invited to call the Applicants' undersigned representative at (509) 453-1319.

Respectfully submitted,

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